

8 port to stored redirection data from said redirection commands and for readdressing said  
 9 selected frames or packets which match any stored redirection command by putting  
 10 information in headers of said selected frames or packets which will cause said switch to  
 11 transmit said selected frames or packets to the device identified in the destination address of  
 12 the original frame or packet header information and bypass said storage manager server but  
 13 make said redirected frames or packets look like they came from said storage manager  
 14 server, and sending said selected, readdressed packets or frames to the destination address  
 15 identified in the new header data so as to bypass said storage manager server, and for  
 16 receiving purge commands from said storage manager server and purging old address data  
 17 and new address data identified in said purge commands of redirection commands issued for  
 18 transactions that have been completed.

1 27. (Clean) A storage manager for a packet or frame switched network including one  
 2 or more client devices and one or more storage devices and a switch, said storage manager  
 3 including:

4 means for receiving read or write transaction requests from said one or more  
 5 client devices and mapping the destination address data designated in each said  
 6 read or write request to a storage device, and, for each said read or write request,  
 7 sending a corresponding read or write request to said storage device identified in  
 8 said destination address to start the transaction; and

9 means for using redirection criteria to decide which read and write requests  
 10 from said client devices to redirect, and for generating and sending redirection  
 11 commands to said switch for the read and write requests to be redirected, said  
 12 redirection commands containing old address data and new address data which will  
 13 cause data and transfer ready frames of read and write transactions to be redirected  
 14 to have the header information thereof altered so that they are routed by said switch  
 15 to bypass said storage manager but look like they came from said storage manager;

16 *CR* and  
 17 means for receiving status frames or packets and for issuing purge  
 18 commands to said switch when said status frames or packets indicate a read or write  
 19 *B<sup>3</sup>* transaction which has been redirected has been completed, said purge commands  
 20 *cont* for causing said switch to purge from one or more look up tables in said switch old  
 21 address data and new address data identified in said purge commands of redirection  
 22 commands previously issued for transactions that have been completed.

1 36. (Clean) A process of redirecting selected types of data frames or packets which  
 2 are part of a read transaction between a client computer and a storage device in a packet or  
 3 frame switched network including a storage manager, one or more client computers, one or  
 4 more storage devices and a packet or frame switch, comprising the steps:  
 5 1) receiving at said storage manager from a client computer one or more read  
 6 requests;  
 7 2) receiving at said packet or frame switch from said storage manager at least  
 8 one redirection command to redirect selected types of data frames or packets which  
 9 are part of a read transaction to be redirected and storing said redirection commands;  
 10 3) transmitting corresponding read requests from said storage manager to  
 11 one or more storage devices identified in said read requests originally received by  
 12 said storage manager so as to start the read transaction;  
 13 4) responding to said read requests at said one or more storage devices  
 14 which received said one or more read requests transmitted by said storage manager  
 15 by transmitting frames or packets addressed to said storage manager via said switch,  
 16 said frames or packets containing the requested data; and  
 17 5) in said switch, receiving said frames or packets of data transmitted by said  
 18 one or more storage devices in response to said one or more read requests, and, if a  
 19 redirection command is stored for a read transaction to be redirected of which said

20 packets or frames are a part of which were received from said one or more storage  
 21 devices as a result of step 4, changing the header of the frames or packets of said  
 22 packets or frames to be redirected so as to reroute them through said switch to said  
 23 one or more client devices which made said read requests in step 1 so as to bypass  
 24 said storage manager but relabeling the headers of said frames or packets to be  
 25 rerouted such that the rerouted packets or frames appear to originate from said  
 26 storage manager.

*B*

1 37. (Clean) A process of redirecting selected frames or packets which are part of read  
 2 transaction between a client device which is requesting data and which transmitted a read  
 3 request to a storage manager via a packet or frame switch requesting data from a storage  
 4 device which stores the requested data, said client and storage device and storage manager  
 5 and switch all being in a packet or frame switched network, said process carried out in said  
 6 switch and comprising the steps:

7 receiving from said storage manager at said packet or frame switch one or  
 8 more redirection commands to redirect the data frames or packets which are  
 9 responses to said read request originated by said client device and storing said one  
 10 or more redirection commands; and

11 receiving frames or packets transmitted by said storage device or said client  
 12 device as part of said read transaction to be redirected, and, if a redirection  
 13 command is stored for said read transaction to be redirected and said receive frames  
 14 or packets are part of said read transaction to be redirected and are the particular  
 15 types of packets or frames that should be redirected, changing the header of each of  
 16 the received frames or packets of said particular types that should be redirected so  
 17 as to reroute said particular types of frames or packets through said switch so as to  
 18 bypass said storage manager but relabeling the headers thereof such that the  
 19 rerouted packets or frames appear to originate from said storage manager.

*P2  
cont.*

1           38. (Clean) A process for controlling redirection of selected data frames or packets of  
2 selected types which are part of a read transaction between a client device and a storage  
3 device in a packet or frame switched network wherein said client device initiates said read  
4 transaction to be redirected by transmitting a read request to a storage manager via a switch  
5 requesting data from a particular storage device, said process carried out in said storage  
6 manager and comprising the steps:

7                   receiving at said storage manager from a client computer one or more read  
8 requests;

9                   composing and transmitting to said packet or frame switch redirection  
10 commands to redirect selected types of data frames or packets which are part of read  
11 transactions which are initiated by at least some of said read requests originated by a  
12 client device such that said switch rewrites header information in selected types of  
13 data frames and packets which are part of a read transaction to be rerouted and  
14 which correspond to a redirection command, said header information being rewritten  
15 such that said selected types of data frames and packets are routed through said  
16 switch so as to bypass said storage manager in travelling between said client device  
17 and said storage device involved in each said read transaction to be rerouted but  
18 said rewriting of said header information of said selected types of data frames and  
19 packets which are part of a read transaction to be rerouted (hereafter referred to as  
20 relabelled data frames) being such as to make each said relabelled data frame look  
21 like it came from said storage manager;

22                   transmitting a read request corresponding to each read request received by  
23 said storage manager from a client device to one or more storage devices identified  
24 in said original read request received by said storage manager so as to start the read  
25 transaction.

1 42. (Clean) A system comprising:

2 a data path or paths;

3 one or more client devices coupled to said data path(s);

4 one or more storage devices coupled to said data path(s);

5 one or more switch means coupled said data path(s) for receiving packets or

6 frames and routing them appropriately according to header address information in

7 said packets or frames, and for receiving redirection commands and storing them in

8 one or more lookup tables and for using old and new address data in said

9 redirection commands to determine which packets or frames of all the packets and

10 frames processed by said switch means are part of a read or write transaction to be

11 redirected and for using information in said redirection commands to rewrite headers

12 in said packets or frames to be redirected so as to cause said packets or frames to

13 be rerouted to pass between a client device and a storage device via said switch

14 means without the need to be routed to a storage manager thereby bypassing said

15 storage manager but said rewriting of said headers being done so as to make each

16 rerouted packet or frame appear as if it was transmitted by said storage manager,

17 and for receiving purge commands and for using the data in said purge command to

18 purge from said one or more lookup tables redirection commands for read and/or

19 write transactions that have been completed; and

20 storage manager means for receiving read and/or write requests from said

21 one or more client devices and for determining by any means whether or not to

22 redirect predetermined type of packets or frames in read or write transactions initiated

23 by said read and/or write requests, and, if a transaction initiated by a read and/or

24 write request is to be redirected, for generating and sending to said switch means

25 said one or more redirection commands to cause predetermined types of packets or

26 frames of said read and/or write transactions to be redirected so as to bypass said